



Smart Sensing Solutions Since 1954

## TB12

*Low Profile Through-Beam Sensor*

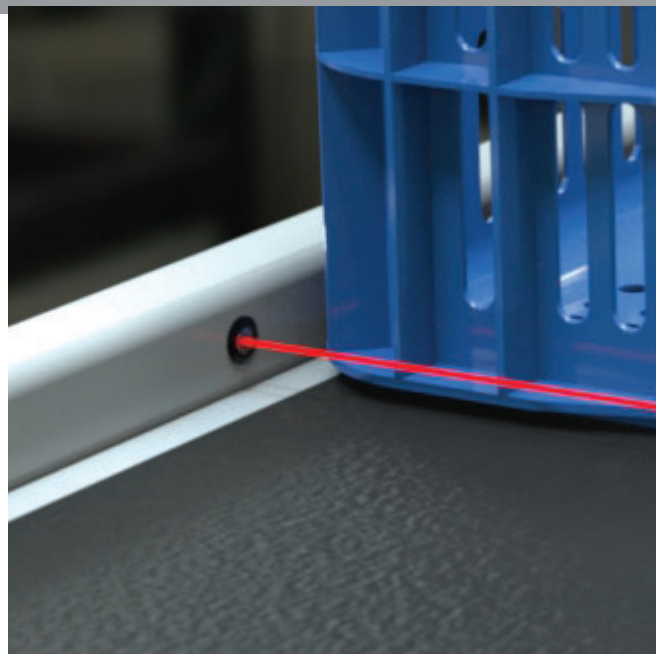


**Through-Beam Photoelectric Sensor**

## TB12

### Through-Beam Sensor

**T**he TB12 Through-Beam Sensor has a 12mm housing with a front flange and plastic nut. This design is ultra-rugged and epoxy encapsulated IP67.



#### Features and Options:

- Ultra-low-power design features a receiver current of 10mA and a transmitter current of 5mA. Ideal for battery powered automated vehicles.
- Small 12mm barrel is a great option in tight spaces.
- Crosstalk rejection between two beam pairs delivers no false triggers.
- Cost effective sensing solution for your needs.

### Flush Mount



# How To Specify

TB12

1. **Select Sensor:**  
Through-Beam 12mm Sensor

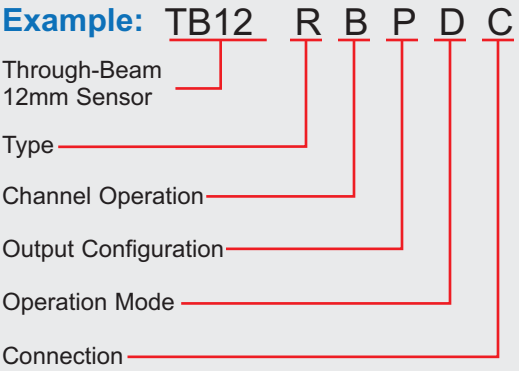
2. **Select Type:**  
R = Receiver  
LS = Light Source (Red Light)

3. **Select Channel Operation\*:**  
Blank = Channel A  
B = Channel B
4. **Select Output Configuration\*\*:**  
P = PNP  
N = NPN

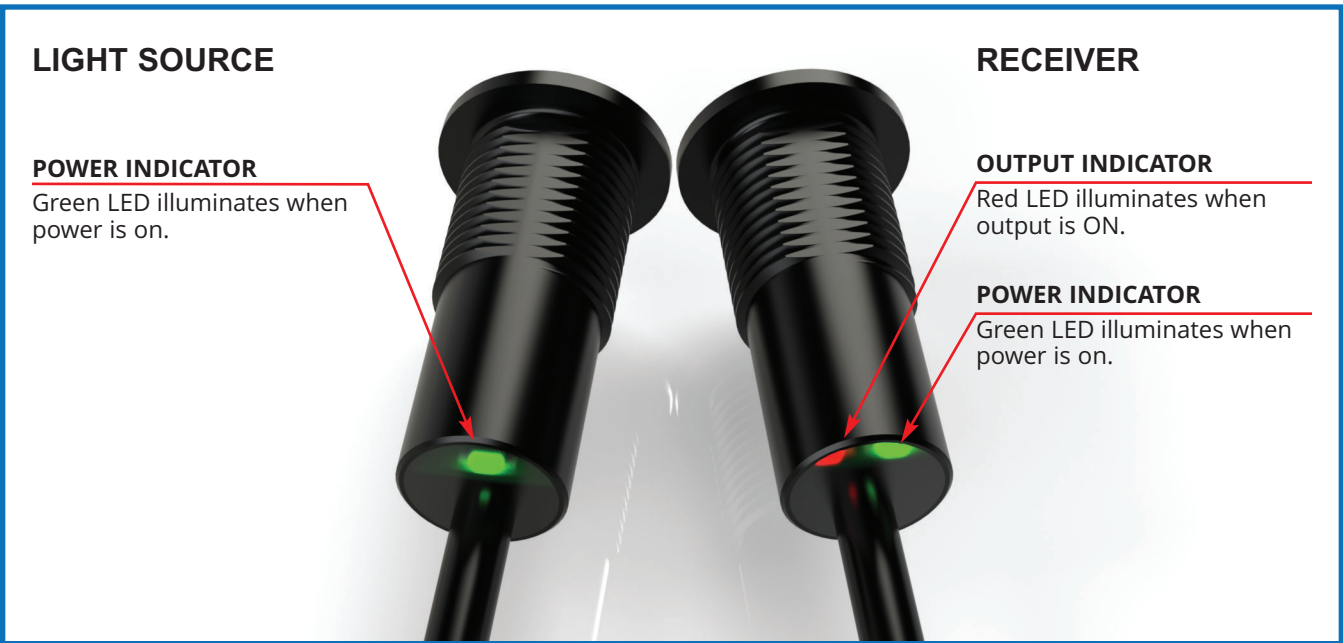
5. **Select Operation Mode\*\*:**  
Blank = Light On  
D = Dark On

6. **Select Connection:**  
Blank = 6ft (1.8m) Cable  
C = 3-Pin M8 Male Pigtail

Notes: \*\*"Channel Operation" applies to both the light sources and receivers (a B-Ch light source would require a B-Ch receiver).  
\*\*\*"Output Configuration" & "Operation Mode" apply only to receivers.



## Features



## Accessories



**GEC3-6**  
3-Pin 6ft (1.8m) Cable



**MB-12**  
12mm Bracket



**NUT-12**  
12mm Mounting Nut

# Specifications

## SUPPLY VOLTAGE & CURRENT

- 8-30 Vdc
- Receiver current 10mA; Transmitter current 5mA
- Reverse polarity protected
- Transient spike protected

## OUTPUT

- 150mA output current
- Short circuit & transient spike protected
- Saturation voltage: < 0.3Vdc @ 10mA  
< 2Vdc @ 150mA
- NPN or PNP based on model.
- Light-On or Dark-On based on model.

## POWER-UP DELAY

- 300ms. No output pulse on power-up.

## RESPONSE TIME

- A-Channel = 300μs on, 600μs off typical.
- B-Channel = 342μs on, 684μs off typical.

## REPEATABILITY

- A-Channel = 100μs.
- B-Channel = 118μs.

## RANGE

- Range 2m
- Light spot 100mm @ 2m

## LIGHT IMMUNITY

- Responds to model's modulation frequency (A-Ch, B-Ch).
- High immunity to most ambient light, including high efficiency lighting and high intensity strobes.

*Note: No false trigger between two sensor pairs on different channels.*

## LED INDICATORS

- Transmitter: Green power LED.
- Receiver: Green power LED, red output LED. Illuminates when output is ON.

## LED LIGHT SOURCE

- LED, Red = 660nm

## CONNECTIONS

- M8, 3-pin, 6in (152mm) pigtail
- Attached cable: RX: 3-wire 6ft (1.8m); TX: 2-wire 6ft (1.8m)

## OPERATING TEMPERATURE

- -20°C to 70°C (-4°F to 158°F) - Electrical.
- Optional fog-proof lens available. Optional fog-proof lens helps reduce condensation at freezing environments. Consult factory for specific application details.

## HOUSING CONSTRUCTION

- 12mm barrel
- Chemical resistant, high-impact polycarbonate
- Lens: polycarbonate
- Encapsulated
- 12mm mounting nut included

## RATINGS & CERTIFICATIONS

- IP67
- CE
- UL Listed



RoHS Compliant  
Product subject to change without notice

## Connections and Dimensions

## TB12 Through-Beam Sensor

